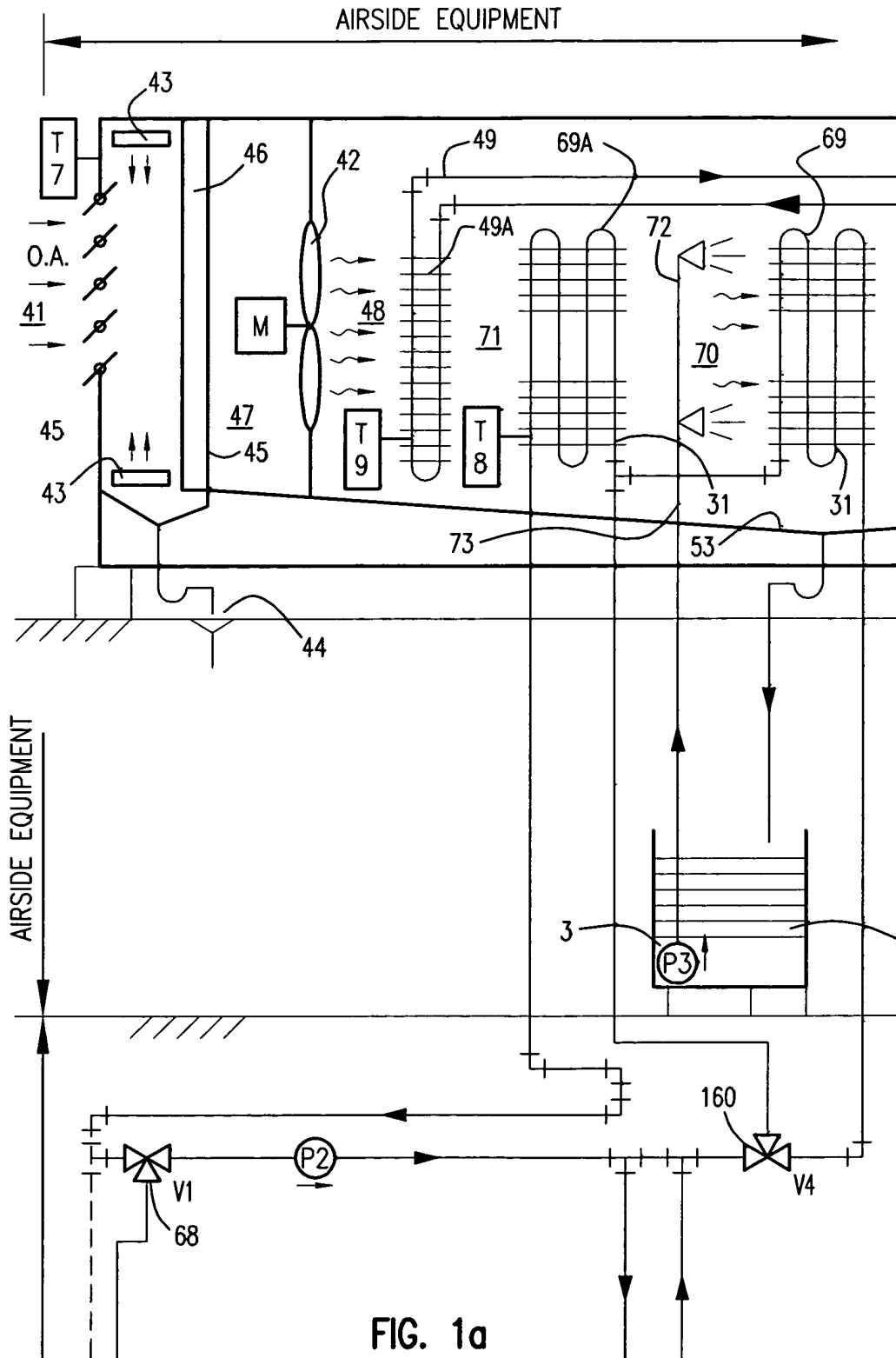




REPLACEMENT SHEET



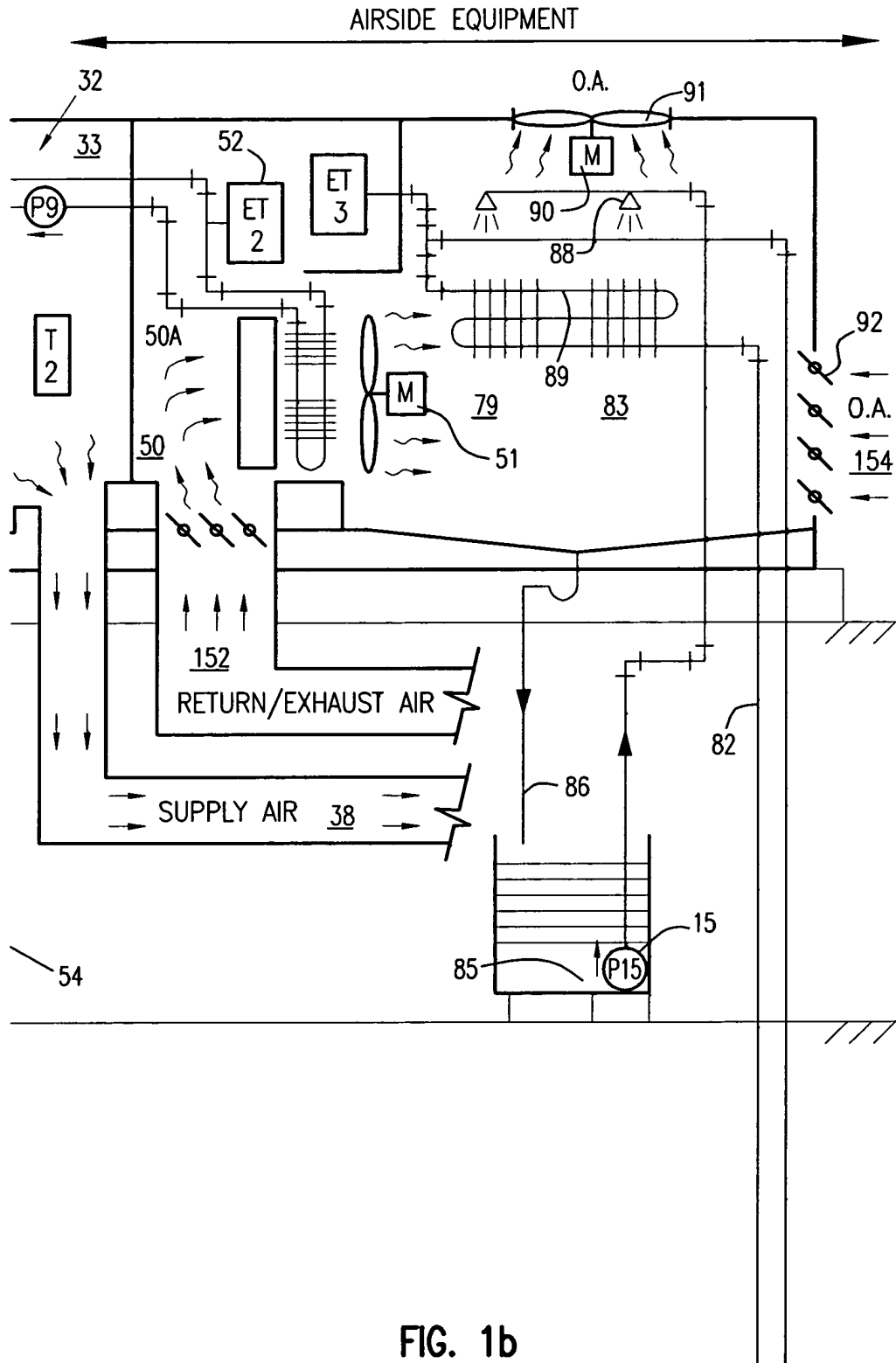


FIG. 1b

REPLACEMENT SHEET

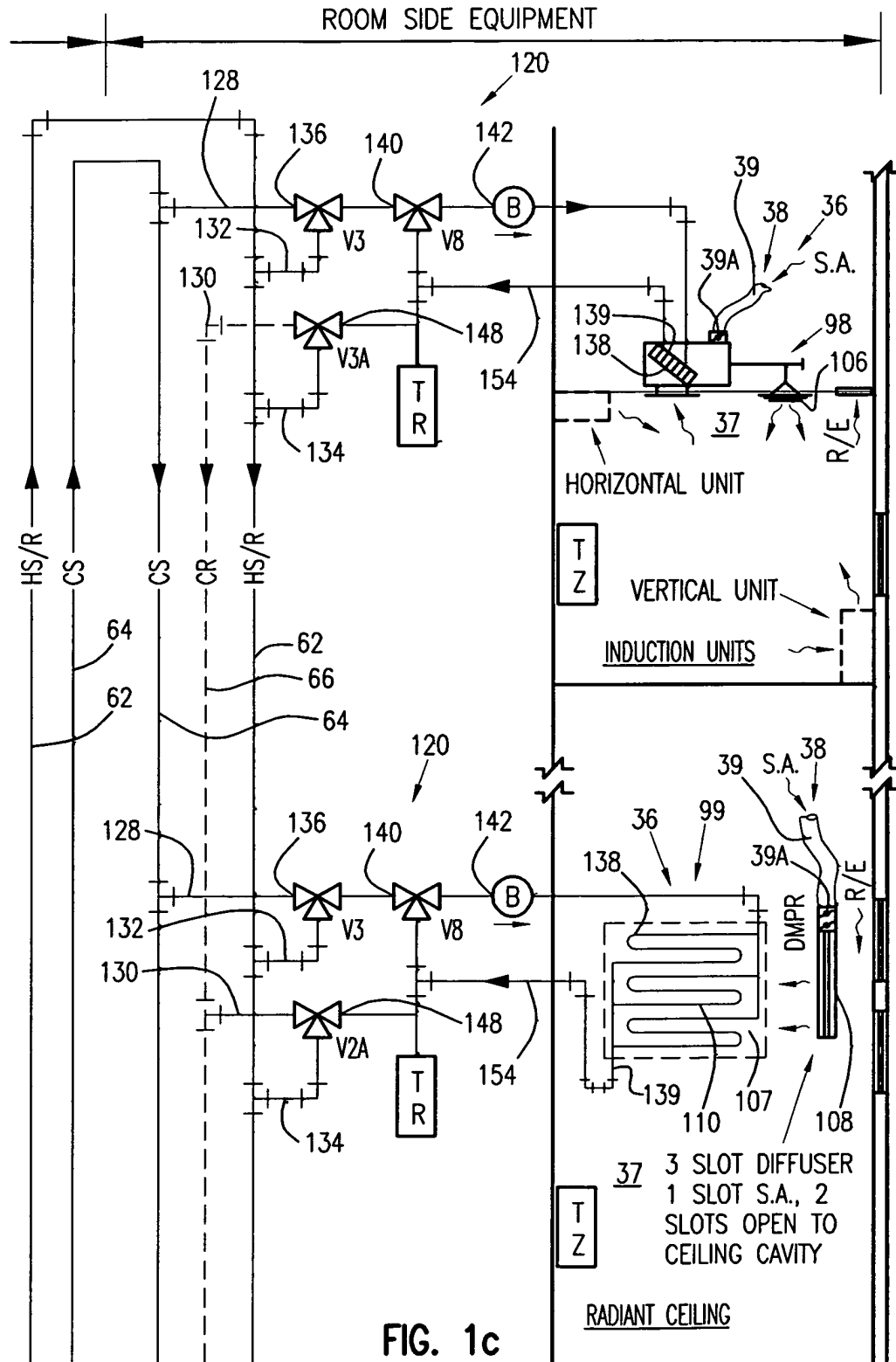


FIG. 1c

REPLACEMENT SHEET

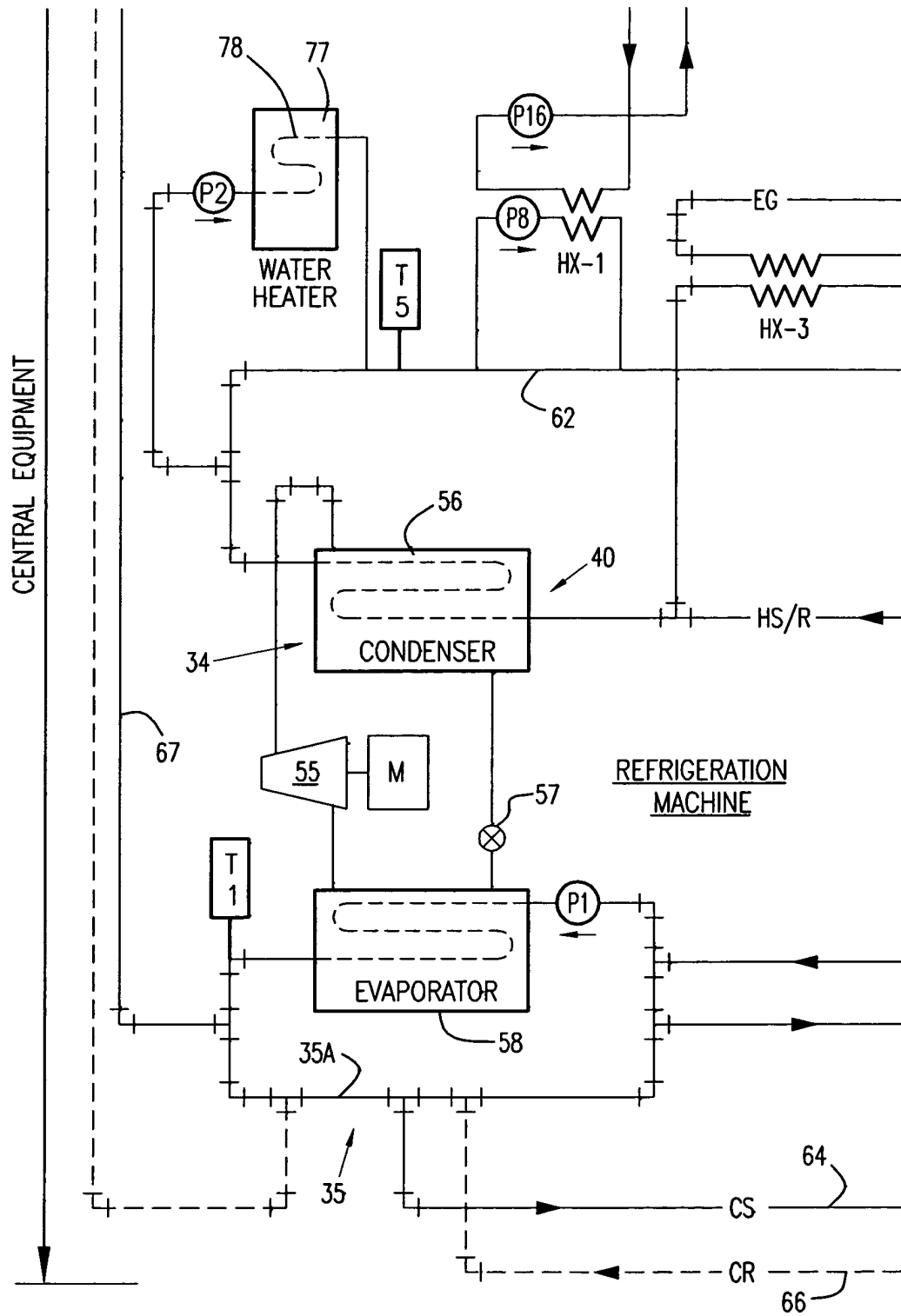


FIG. 1d

REPLACEMENT SHEET

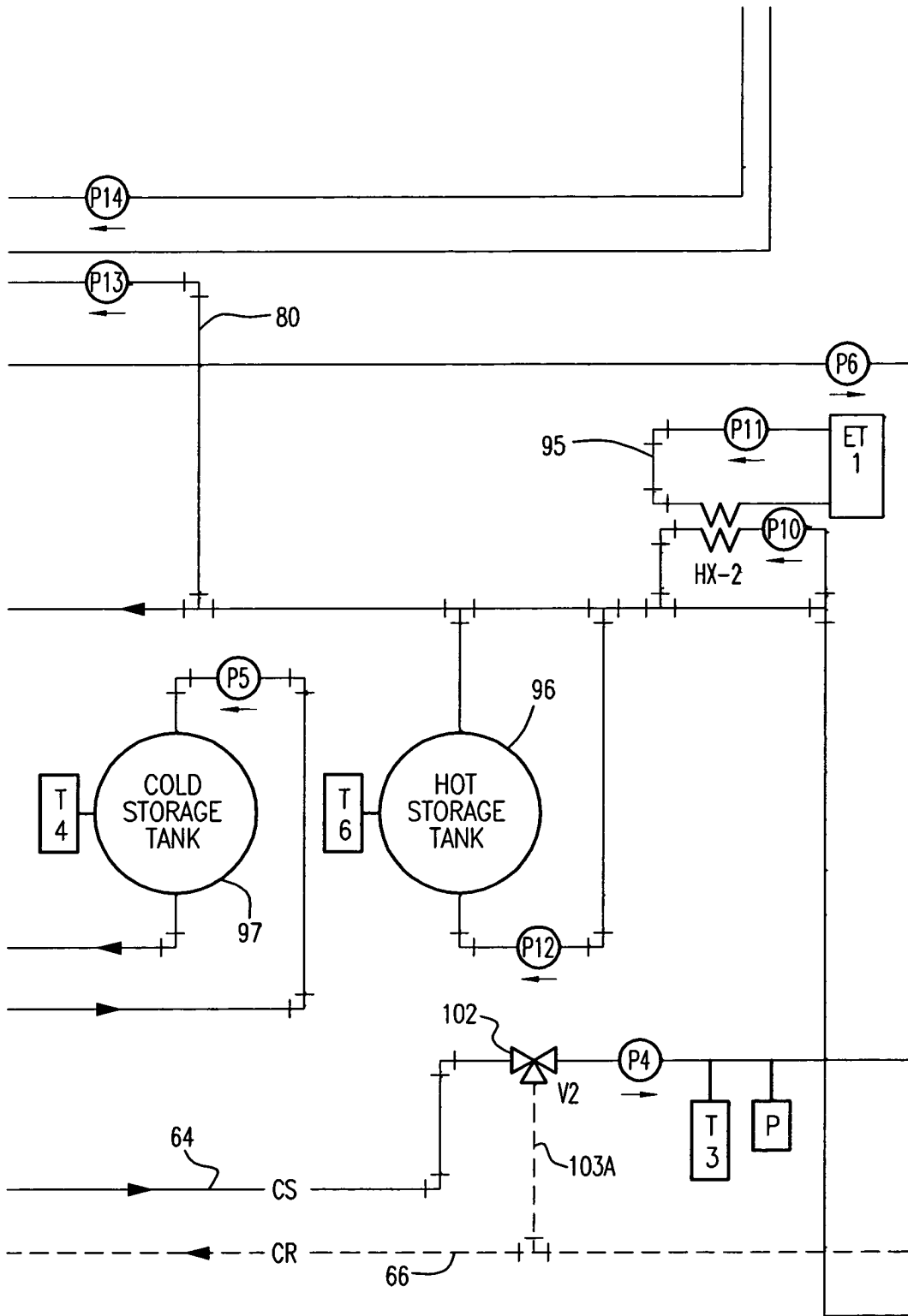


FIG. 1e

REPLACEMENT SHEET

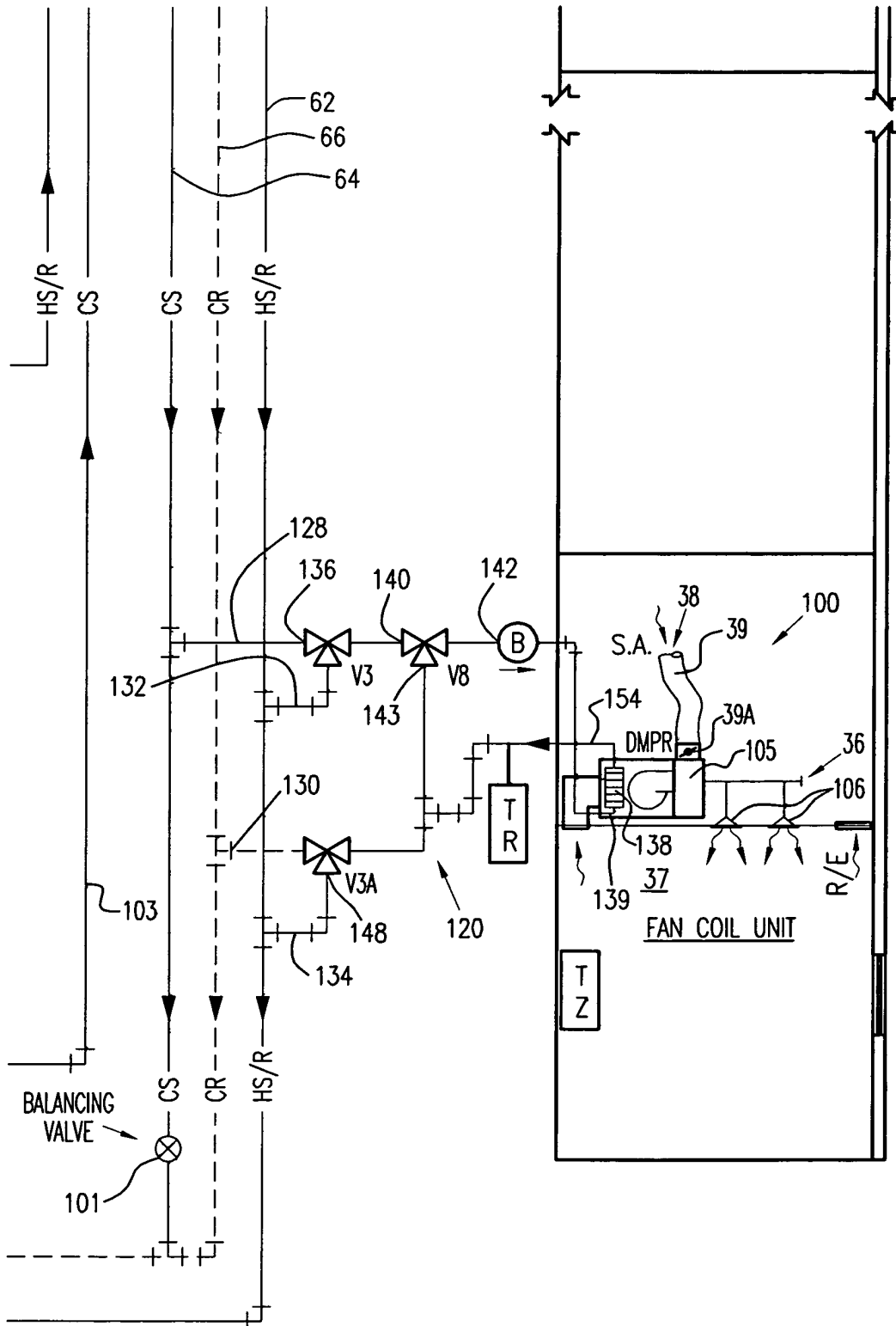






FIG. 1f

FIG. 1d

FIG. 1g

REPLACEMENT SHEET

——CS——	COLD WATER SUPPLY PIPE
----CR----	COLD WATER RETURN PIPE
—HS/REG—	HOT WATER COMBINATION SUPPLY & RETURN PIPE
——EG——	ETHYLENE GLYCOL SUPPLY OR RETURN PIPE
O.A.	OUTSIDE AIR
S.A.	SUPPLY AIR (48 DEG. DRY BULB. YEAR ROUND)
R/E	RETURN / EXHAUST AIR TO EVAPORATIVE COOLER
D.A.	DISCHARGE AIR TO ATMOSPHERE
 ET-1	SYSTEM EXPANSION TANK
 ET-2	RUNAROUND COILS EXPANSION TANK
 ET-3	EVAPORATIVE COOLER EXPANSION TANK
	HEAT EXCHANGER
HX-1	SPRAYED COIL / HUMIDIFICATION HEAT SOURCE HEAT EXCHANGER
HX-2	SALVAGE ENERGY TO REMOTE HEATING LOADS HEAT EXCHANGER
HX-3	HOT WATER / ETHYLENE GLYCOL / EVAPORATIVE COOLER HEAT EXCHANGER
V _B	MODULATING 3 WAY, ZONE BLENDING VALVE
V ₁	MODULATING 3 WAY, MIXING VALVE (AIR SIDE HEATING HUMIDIFICATION AND COOLING COIL)
V ₂	MODULATING 3 WAY, MIXING VALVE (ROOM SIDE COLD WATER LOOP)
V ₃	2 POSITION 3 WAY CHANGE OVER VALVE (UP STREAM OF ROOM SIDE EQUIPMENT)
V ₄	2 POSITION 3 WAY DIVERTING VALVE
V _{3A}	2 POSITION 3 WAY CHANGE OVER VALVE (DOWN STREAM OF ROOM SIDE EQUIPMENT)

PUMP AS FOLLOWS

ALL PUMPS ARE CONSTANT SPEED UNLESS OTHERWISE INDICATED

- * INDICATES VARIABLE SPEED DRIVE PUMP
- ** INDICATES PUMP CONTROLLED BY A DISCHARGE PRESSURE CONTROLLER
- ✓ INDICATES PUMPS ARE CONTROLLED BY TEMPERATURE

- PUMP B – BLENDING PUMP, ROOM SIDE EQUIPMENT
- PUMP 1 – COLD WATER, EVAPORATOR PRIMARY LOOP
- PUMP 2 – COLD WATER SUPPLY TO AIRSIDE EQUIPMENT COOLING COIL
- ✓* PUMP 3 – COOLING COIL SPRAY PUMP
- ** PUMP 4 – COLD WATER SUPPLY TO ROOM SIDE LOOP
- PUMP 5 – COLD WATER STORAGE TANK BYPASS
- PUMP 6 – HOT WATER COMBINATION SUPPLY / RETURN LOOP
- PUMP 7 – WATER HEATER BYPASS
- ✓* PUMP 8 – HX-1 BYPASS
- ✓* PUMP 9 – PREHEAT / PRE COOL RUN AROUND COIL LOOP

FIG. 2a

REPLACEMENT SHEET

PUMP 10 - HX-2 BYPASS
PUMP 11 - HX-2 SALVAGE ENERGY, SUPPLY / RETURN LOOP
PUMP 12 - HOT WATER STORAGE TANK BYPASS
PUMP 13 - HX-3 BYPASS
PUMP 14 - EVAPORATIVE COOLER LOOP (HOT WATER, HX-2,
ETHYLENE GLYCOL)
PUMP 15 - EVAPORATIVE COOLER SPRAY PUMP
PUMP 16 - HX-1 SECONDARY LOOP (HUMIDIFICATION HEATING
SOURCE)

THERMOSTAT AS FOLLOWS

T1 - COLD WATER SUPPLY FROM EVAPORATOR, 40 DEGREES
SUMMER, RAMP TO 52° WINTER
T2 - AIR SIDE SUPPLY AIR, 48 DEGREES DRY BULB, WET BULB,
DEW POINT YEAR ROUND
T3 - COLD WATER SUPPLY TO ROOM SIDE EQUIPMENT, 52 DEGREES
YEAR ROUND
T4 - COLD WATER STORAGE TANK
T5 - HOT WATER SUPPLY 95 DEGREES SUMMER, RAMP UP TO 120
DEGREES WINTER
T6 - HOT WATER STORAGE TANK
T7 - OUTSIDE TEMPERATURE
T8 - REHEAT COIL DISCHARGE TEMPERATURE
T9 - RUN AROUND PREHEAT COIL DISCHARGE TEMPERATURE
TZ - ROOM SIDE ZONE THERMOSTAT

FIG. 2b

REPLACEMENT SHEET

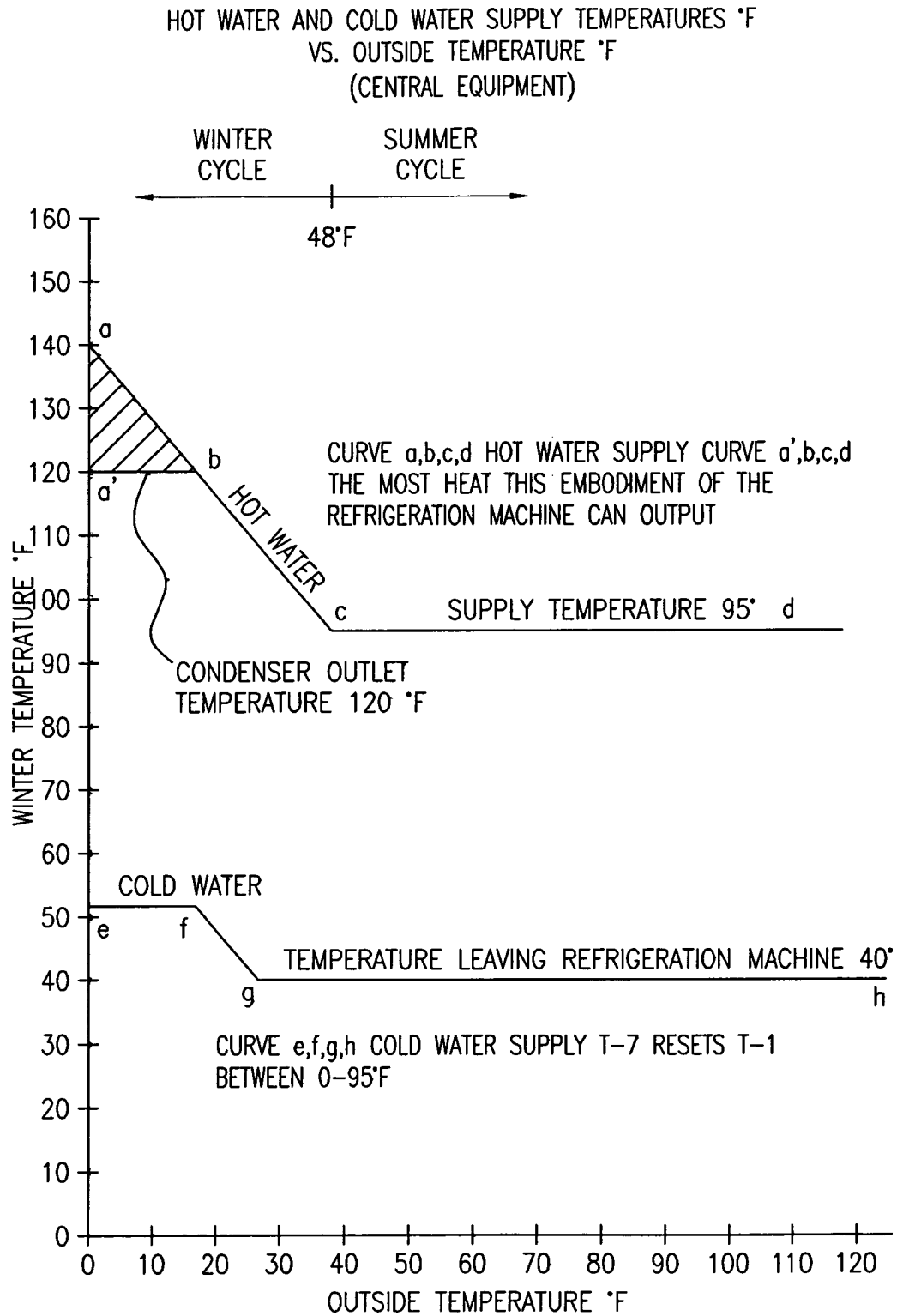


FIG. 3

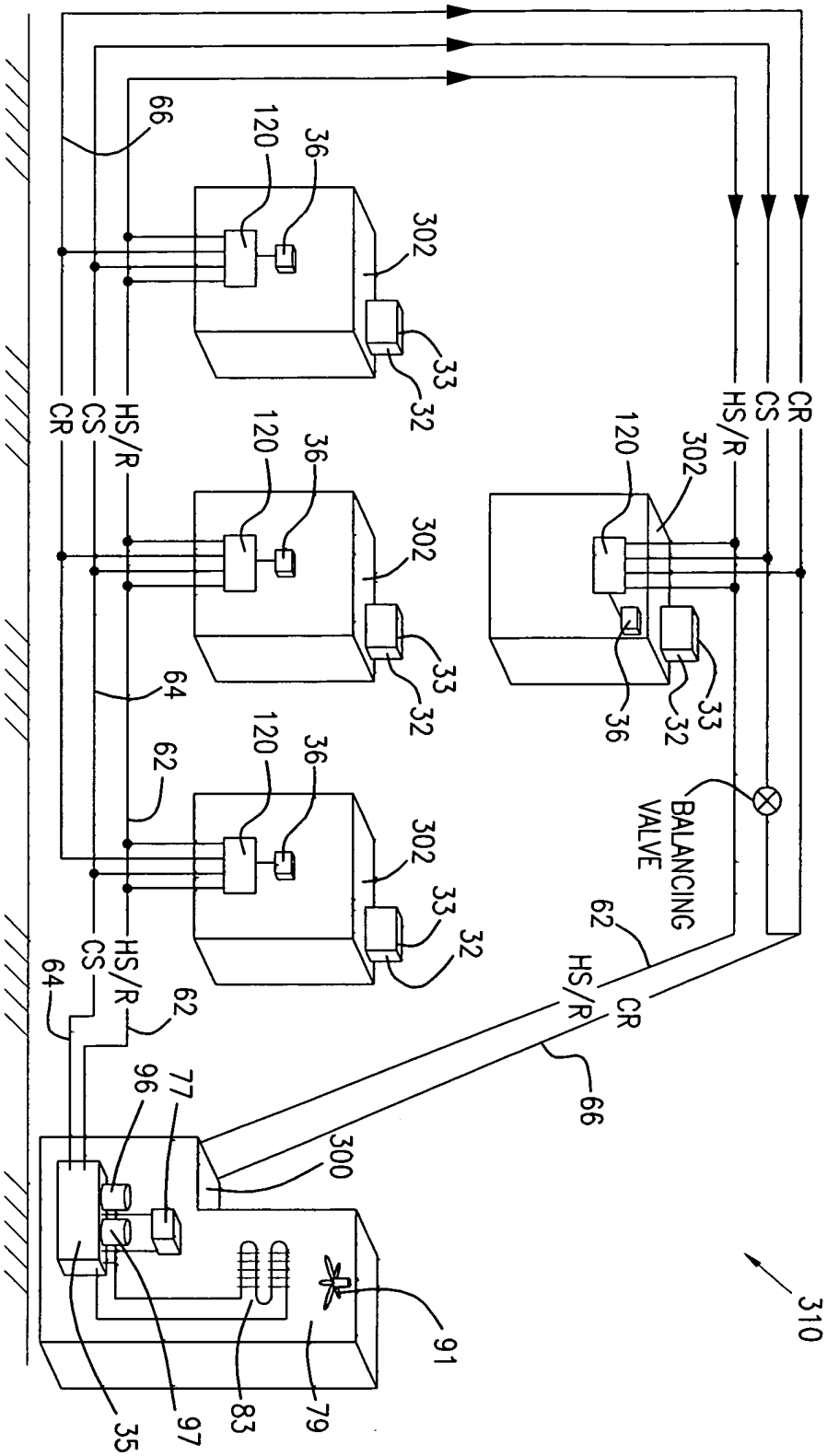


FIG. 5